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UNITED STATES DEPARTMENT OF AGRICULTURE  
Rural Electrification Administration  
Technical Standards Committees  
(Electric)

Supplement No. 1, October 1979, to  
REA Bulletin 43-5  
LIST OF MATERIALS ACCEPTABLE FOR USE ON  
SYSTEMS OF REA ELECTRIFICATION BORROWERS

The attached pages for the "List of Materials Acceptable for Use on Systems of REA Electrification Borrowers" are those which have been revised by action of the Technical Standards Committees during the months of July through September 1979. The following changes should be made in order to keep it up to date. Pages with a colon between are on the same sheet, both being changed.

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PROJECT SECTION  
CURRENT JOURNAL RECORDS

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b - Pin, pole top, steel

DISTRIBUTION

	<u>7.2/12.5 or 7.62/13.2 kV</u>	<u>14.4/24.9 kV</u>
Pin length, inches :	20	20
Thread diameter, inches:	1	1-3/8
Hole spacing, inches :	8	8
REA Specifications :	D-3	DT-3
Chance	2199	2195
Dixie		D2195
Joslyn		J720
Kortick		K8086
McGraw-Edison	DP19P6	DP19P5*
Utilities Service	36606F-REA	36652

Pins listed below have  $4\frac{1}{2}$ " offset  
which eliminates the use of Item cs

McGraw-Edison	DP28P1
Utilities Service	36549

TRANSMISSION

Type :	1-1/8" solid steel	Channel
Pin length, inches :	24	24
Thread diameter, inches:	1-3/8	1-3/8
Hole spacing, inches :	8	8
REA Specifications :	None	DT-3
Chance		2196
Dixie	D2125	
Joslyn		J824
Kortick		K8087
McGraw-Edison		DP19P8
Utilities Service		36653F

NOTE 1. Pole top bracket (Item eb) and post insulator (Item ea) may be substituted for pole top pin (Item f) and pin insulator (Item a) for both small and large conductor distribution drawings shown in REA Forms 803 and 804 at the option of the owner.

2. Flared type pins may be mounted with either side against the pole.

<sup>c</sup>  
July 1979

c - Bolt, machine

Applicable Specifications: Edison Electric Institute  
Specification TDJ-1 1969,  
"Specifications for Steel  
Bolts and Nuts"

Applicable Sizes : 1/2 inch diameter, 6 through  
10 inch length

5/8 inch diameter, 6 through  
24 inch length

3/4 inch diameter, 6 through  
26 inch length

7/8 inch diameter, 6 through  
28 inch length

The following manufacturers have shown compliance with the applicable  
specifications for machine bolts:

A. B. Chance Company  
Dixie Electrical Manufacturing Company

Hughes Brothers  
\*Joslyn Manufacturing and Supply Company  
Kortick Manufacturing Company  
\*McGraw-Edison

Utilities Service Company



\*"Static proof" design available.



p - Connectors

Applicable Specification: "REA Specifications for Connectors," DT-8

ACSR to ACSR  
To same size or smaller

	Bare Conductor			
	4/0 - 2/0	1/0	2	4
ALCOA	190	396.6	490.0	490.0
Anderson/Sq. D	LC-53A	LC-51C	LC-51A	LC-51A
Bethea/National	APG-3	APG-2	APG-1	APG-1
Blackburn	PAA12	PAA5	PAA2	PAA2
Burndy	KVS28A	UCG25R	UC25R2R	UC25R2R
Fargo	GA-614	GA-620	GA-620	GA-620
Joslyn	6053	6052	6052	6052
Penn-Union	PCAA-20BF	PCAA-15BF	PCAA-10BF	PCAA-10BF
Reliable	6053	6052	6052	6052
Weaver	NICA12	NICA60	NICA2	NICA2

p - Connectors  
ACSR to ACSR  
To same size or smaller

	<u>Over Armor Rods</u>				
	<u>3/0</u>	<u>2/0</u>	<u>1/0</u>	<u>2</u>	<u>4</u>
ALCOA	200	R196	R196	R196	198
Anderson/Sq. D	LC-83A	LC-52C	LC-52C	LC-52C	LC-52C
Blackburn	-	-	PAA10	PAA10	PAA10
Burndy	-	-	UC32R	UC32R	UC32R
Fargo	GA-9843	GA-9842	GA-616	GA-616	GA-616
Joslyn	-	-	744AL	600AL	600AL
Penn-Union	-	-	ARC-12	ARC-11	ARC-14
Reliable	-	-	744AL	600AL	600AL
Sherman	-	-	R102	R102	R102
Weaver	-	-	NICR60	NICR60	NICR60

	<u>ACSR to 'Guy Strand</u>		
	<u>2/0</u>	<u>1/0</u>	<u>2 &amp; 4</u>
ALCOA	396.6	396.6	490.0
Anderson/Sq. D	LC-52A-GP	LC-51C-GP	LC-51A-GP
Bethea/National	APG-3	APG-2	APG-2
Blackburn	PAA10	PAA6	PAA5
Burndy	UC28R	UCG25R	UCG25R
Dossert	AC103-LW	AC101-LW	AC100-LW
Fargo	GA-616	GA-620	GA-620
Joslyn	744AL	555AL	438AL
Penn-Union	ALC-15	ALC-10	PCA-010
Reliable	744AL	555AL	438AL
Weaver	NICR60	NICA60	NICA60

p - Connectors

ACSR to Copper or Copperweld-Copper

	ACSR Size (Bare Conductor)				
	3/0	2/0	1/0	2	4
ALCOA	197	R193	R193	195	195
Anderson/Sq. D	LC-811A	LC-811A	LC-522A	LC-511A	LC-511A
Blackburn	PAC7	PAC7	PAC4	2CA	4CA
Fargo	GA-616C	GA-616C	GA-620C	GA-620C	GA-620C
Joslyn	600ALC	555ALC	438ALC	438ALC	438ALC
Reliable	600ALC	555ALC	438ALC	438ALC	438ALC
Sherman	R-101	R-101	-	-	-
Weaver	-	-	-	2WCA	2WCA

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p - Connectors

ACSR to Copper or Copperweld-Copper

	ACSR Size (Over Armor Rods)				
	3/0	2/0	1/0	2	4
ALCOA	201	R197	R197	R197	199
Anderson/Sq. D	LC-833	LC-833	LC-811A	LC-811A	LC-811
Blackburn	-	-	PAC 7	PAC 7	PAC 7
Fargo	GA-9843C	GA-9842C	GA-616C	GA-616C	GA-616C
Joslyn	-	-	744ALC	600ALC	600ALC
Reliable	-	-	744ALC	600ALC	600ALC
Sherman	-	-	R101	R101	R101

p - Connectors, service

Aluminum-to-Aluminum

Solid or Stranded

	<u>No. 2</u>	<u>No. 4</u>
Alcoa	490.0	490.0
Anderson Elec.	LC-51A	LC-51A
Bethea/National	APG-1	APG-1
Blackburn	PAA2	PAA2
Burndy	UC25R2R	UC25R2R
Fargo	GA-620	GA-620
Joslyn	AL24KK	AL46KK
Penn-Union	PCAA-10BF	PCAA-10BF
Reliable	AL24KK	AL46KK
Weaver	NICA2	NICA2

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p - Connectors, Service

Aluminum-to-Copper

Solid or Stranded

	<u>2 Al to 4 Cu</u>	<u>4 Al to 6 Cu</u>
ALCOA	R193	195
Anderson/Sq. D	LC-511A	LC-511A
Blackburn	PAC345	PAC345
Fargo	GA-620C	GA-620C
Joslyn	AL24UU	AL46UU
Penn-Union	PAE-2	PAE-1
Reliable	AL24UU	AL46UU



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v - Guy attachment

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
Joslyn		
Pole band, with cone head	745	To obtain experience.
bolt J-6281 and guy clip	8/16/62	For distribution line
J-6275		only and 10,000 lbs.
J-6280(for 6" to 10" pole)		maximum loading.
J-6270(for 8" to 14" pole)		

W  
October 1979

W - Insulators, guy strain  
(These items shall conform to "REA Specifications  
for Guy Strain Insulators," D-12)

Max. Strand Dia., inches	3/8	1/2	5/8	5/8
Ult. Strength, pounds	10,000	12,000	20,000	20,000
Flashover, kV, Dry-Wet	25-12	30-15	35-18	40-23
ANSI Class	54-1	54-2	54-3	54-4

<u>Chance</u>	C909-1041	C909-1042	C909-1043	C909-1044
<u>Gould Inc. (ITE)</u>	502	504	506	556
<u>Joslyn (Pinco)</u>	L502	L504	L506	L289
<u>Ohio Brass</u>	31502	31504	31506	31352
<u>Porcelain Prod. (Knox)</u>	502	504	506	708

Insulators, guy strain  
(Fiber Reinforced Plastic)

Ult. Strength, pounds	11,000	15,000	21,000
<u>Anderson/ Sq. D</u>	GSI1	GSI2	GSI3
<u>Barron Bethea</u>	BB-11-CC Series	BB-15-CC Series	BB-21-CC Series
<u>Continental</u>	G-11 Series	G-15 Series	G-21 Series
<u>Dixie</u>	-	GIG-15 Series	GIG-25 Series
<u>Flagg (MIF)</u>	110 Series	150 Series	210 Series
<u>Joslyn-Empire</u>	400 Series	500 Series	650 Series
<u>Kearney</u>	-	321015	321021
<u>Plastigage</u>	HSI1-1P Series	HSI-2X Series	HSI3-1P Series
<u>Shakespeare</u>	-	692 Series	694 Series

x - Rod, anchor

Applicable Specifications: Edison Electric Institute  
Specification TD-2, "Specifications  
for Strand Eye Anchor Rods"

Applicable Sizes: Single guy - 5/8 inch diam. 6, 7 and 8 feet long  
- 3/4 inch diam. 8, 9 and 10 feet long  
- 1 inch diam. 9 and 10 feet long

Double guy - 5/8 inch diam. 7 and 8 feet long  
- 3/4 inch diam. 8, 9 and 10 feet long  
- 1 inch diam. 9 and 10 feet long

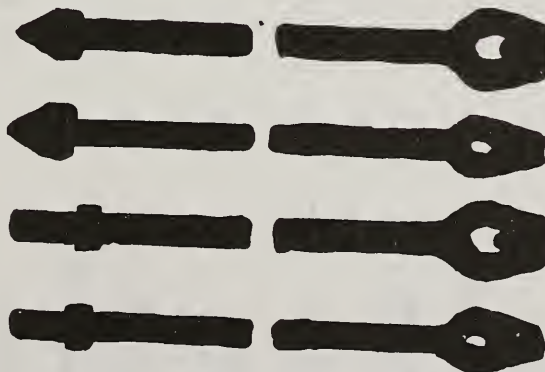
Single Guy Drive - 5/8 inch diam. 7 and 8 feet long  
- 3/4 inch diam. 8, 9 and 10 feet long  
- 1 inch diam. 9 and 10 feet long

Double Guy Drive - 5/8 inch diam. 7 and 8 feet long  
- 3/4 inch diam. 8, 9 and 10 feet long  
- 1 inch diam. 9 and 10 feet long

The following manufacturers have shown compliance with the applicable specifications. Some manufacturers cannot supply all sizes listed above. Check with manufacturer or distributor for availability.

Blackburn  
Chance  
Dixie  
Grip-Tite

Joslyn  
Kortick  
McGraw-Edison  
Utilities Service



y - Galvanized Steel Strand

Applicable Specification: ASTM A475 (Class A, B or C Coating)

DISTRIBUTION GUY STRAND

Grade Size	Siemens Martin			High Strength (HS)			Extra High Strength (EHS)					
	1/4"	3/8"	7/16"	1/4"	9/32"	5/16"	3/8"	7/16"	1/4"	9/32"	5/16"	3/8"
<u>Manufacturer</u>												
Alcan Cable	X	X	X	X			X	X	X			X
Armco Steel Corp.	X	X	X	X		X	X	X	X		X	X
Bethlehem Steel	X	X	X	X		X	X	X	X		X	X
CF&I	X	X	X	X			X	X	X			X
Cal-Wire	X	X	X	X		X	X	X	X		X	X
Florida Wire and Cable	X	X	X	X		X	X	X	X		X	X
Indiana Steel and Wire	X	X	X	X		X	X	X	X		X	X
Paulsen-Webber	X	X	X	X			X	X	X			X
Seal Wire Co.	X	X	X	X			X	X	X			X
Southwire	X	X	X	X		X	X	X	X		X	X
U. S. Steel	X	X	X	X		X	X	X	X		X	X

Note: The buyer should specify Class A, B or C coating per ASTM Specification A475.

y - Galvanized Steel Strand

Applicable Specification: ASTM A475 (Class A, B or C Coating)

TRANSMISSION GUY STRAND

Grade Size	High Strength (HS)					Extra High Strength (EHS)				
	1/4"	9/32"	5/16"	3/8"	7/16"	1/4"	9/32"	5/16"	3/8"	7/16"
<u>Manufacturer</u>										
Alcan Cable	X			X	X	X			X	X
Armco Steel Corp.	X		X	X	X	X		X	X	X
Bethlehem Steel	X			X	X	X		X	X	X
CF&I	X			X	X	X			X	X
Cal-Wire	X	X	X	X	X	X	X	X	X	X
Florida Wire and Cable	X	X	X	X	X	X	X	X	X	X
Indiana Steel and Wire	X	X	X	X	X	X	X	X	X	X
Paulsen-Webber	X			X	X	X			X	X
Seal Wire Co.	X			X	X	X			X	X
Southwire	X	X	X	X	X	X	X	X	X	X
U. S. Steel	X		X	X	X	X	X	X	X	X

Note: The buyer should specify Class A, B or C coating per ASTM Specification A475.

y - Galvanized Steel Strand

Applicable Specification: ASTM A363 (Class A, B or C Coating)

Grade Size	Manufacturer	OVERHEAD STATIC WIRE			
		High Strength (HS) 3/8"	High Strength (HS) 5/16"	Extra High Strength (EHS) 3/8"	Extra High Strength (EHS) 7/16"
	Alcan Cable	X		X	X
	Armco Steel Corp.	X	X	X	X
	Bethlehem Steel	X	X	X	X
	CF&I	X		X	X
	Cal-Wire	X	X	X	X
	Florida Wire and Cable	X	X	X	X
	Indiana Steel and Wire	X	X	X	X
	Paulsen-Webber	X		X	X
	Seal Wire Co.	X		X	X
	Southwire	X	X	X	X
	U. S. Steel	X	X	X	X

Note: The buyer should specify Class A, B or C coating per ASTM Specification A363.



y - Steel Strand

Aluminum Clad

Aluminum-clad steel strand for overhead  
ground wire (Alumoweld)

Applicable Specifications: ASTM B 416  
Applicable Sizes : 7 x .106", 7 No. 9 AWG  
7 No. 8 AWG, 7 No. 7 AWG

Copperweld

For guy strand (Alumoweld)

Applicable Sizes: 4M (3 No. 10), 6M (7 No. 12), 8M (7 No. 11),  
10M (7 No. 10), 11.5M (7 x .110"), 12.5M (7 No. 9),  
14M (7 x .121"), 16M (7 No. 8), 20M (7 x .148")

Copperweld

z-1  
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z - Anchors, Expanding and Plate

DISTRIBUTION

Rating - lbs.		6000	8000	10,000	12,000
Min. Area - sq. in.		90	100	120	135
Rod Dia. - inches		5/8	5/8	3/4	3/4
Rod Length - feet		7	7	8	-
	<u>Type</u>				
Chance	8 way	-	-	88135	88135
Dixie	4 way	D88100-G	D88115-G	D88135-G	D88135-G
	Plate	-	D7502-G	-	D7504-G
Everstick	3 way	834	836	8310	-
	4 way	-	-	84-3/4	-
Grip-Tite	8 way	A322086G	A322088G	A322812G	A322812G
Joslyn	8 way	J8100-G	J8115-G	J8135-G	J8135-G
	Plate	-	J7502-G	J7503-G	J7504-G
McGraw-Edison	4 way	DA1E5	DA1E6	DA1E6	DA1E7
	Plate	DA1P7	DA1P8	DA1P9	DA1P10
Power Line Hardware	8 way	PLHG-1008	PLHG-1158	PLHG-1358	PLHG-1358
South Central	8 way	-	84115AG	84135AG	84135AG
Utilities Service	8 way	C88100-G	C88115-G	C88135-G	C88135-G
	Plate	-	C617-G	C622-G	C822-G

NOTE: Where galvanized anchors are listed, the same anchors ungalvanized (black asphalt coated) are also acceptable.

af - Cutouts, Distribution, Open

<u>Manufacturer</u>	<u>Type</u>	<u>Voltage Rating</u>
Chance	F3	15, 27 kV
General Electric	9F34	15, 27 kV
Joslyn	Series 2	15, 27 kV
Kearney	HX (with or without loadbreak accessory)	15, 27 kV
McGraw-Edison	S1	15, 27 kV
S & C Electric	XS	15, 27 kV
Southern States	Series 66	15, 27 kV
	Series 70	15 kV
Westinghouse	NCX	15, 27 kV
	LBU-II	15, 27 kV

NOTE: The buyer should specify the load rating, voltage rating, interrupting rating and required accessories.

Cutouts used on underground riser poles should be load-break type or have hooks for portable load interrupters.

af-2  
July 1979

af - Cutout, open-link fuse support

<u>Manufacturer</u>	<u>Mounting</u>	<u>7.2/12.5 kV 50 amp.</u>	<u>14.4/24.9 kV 50 amp.</u>
Joslyn	Crossarm	J9254-6	J9264-6
Kearney	Crossarm	6484-55	-
	Bushing	6486-4	-
McGraw-Edison	Crossarm	FT1A2	FT1A4
	Bushing	FT10A3	-
RTE	Crossarm	41S3	41S6

NOTE: Items listed on this page are fuse supports only and have no inherent interrupting capacity. They should be used with fuse links capable of interrupting at least 1200 amperes and for transformer protection only.

ai - Rods, ground

Applicable Sizes: The standard size is 5/8 inch x 8 feet and catalog numbers listed below are for this size. Larger sizes may be required for special conditions.

Copper-covered ground rods are listed with a 13 mil minimum at any point and a 15 mil average covering of copper. All purchases should specify that a factory certification of the thickness of the copper must accompany the shipment of the rods.

Copper-covered steel rods

Boggs	EB810
Burndy	858-RGR
Carolina Galvanizing	P-588
ITT Blackburn	6258
Joslyn	J8338
Kortick	K5428
Knight	858
Power Line Hardware	PLH-588-C
UTM	858PP
Utilities Service	6617
Weaver	W588
Wilcor	WA588C

Stainless Clad Steel

<u>Manufacturer</u>	<u>5/8"</u>	<u>3/4"</u>
Joslyn	J5374	J5377
Porcelain Products	9438	9448
Teledyne (MEFCO)	"PERMAGROUND"	"PERMAGROUND"

ai-2  
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ai - Rods, Ground

Applicable Sizes: The standard size is 5/8 inch x 8 feet and catalog numbers listed below are for this length. Longer rods may be required for special conditions.

Hot Dip Galvanized Steel

<u>Manufacturer</u>	<u>5/8"</u>	<u>3/4"</u>
Boggs	G588	G348
	PTG588**	PTG348**
Burndy	G588GR	-
Carolina Galvanizing	R588	R688
Chance	8578	8618
	C203-0107**	C203-0109**
Dixie	D8578	D8618
Galvan	GR6258	GR7508
General Electric	0982-00002	0982-00003
Grip-Tite	GT588	GT348
	GT588PT**	GT348PT**
Joslyn	J3358B*	J3458B*
	J5328	J5338
	J5228**	J5238**
Knight	G-588	G-348
	G-588PT**	G-348PT**
Kortick	K4658	K4678
Lloyd	6258H	7508H
McGraw-Edison	DN5S8	DN6S8
	DN6D8*	DN7D8*
Porcelain Products	7338	7348
Power Line Hardware	PLH-588-G	PLH-348-GS
Utilities Service	5307	6338
Weaver	8480G	8340G
Wilcor	WA8580G	-

Electro-Galvanized Steel

LMP	6258E**	7508E**
-----	---------	---------

Stainless Steel

Joslyn	23821	23822
Teledyne (MEFCO)	TDY Sol	TDY Sol

\*Rod furnished with clamp.

\*\*Rod furnished with 4 ft., No. 6 tinned or galvanized copper pigtail.



ai - Rods, ground, sectional

Galvanized steel and  
copper-covered steel

Copper-covered ground rods are listed with a 13 mil minimum at any point and a 15 mil average covering of copper. All purchases should specify that a factory certification of the thickness of the copper must accompany the shipment of the rods.

Sectional Ground Rods

<u>Manufacturer</u>	<u>8' long</u>	<u>10' long</u>	<u>Couplings</u>	<u>Driving studs</u>
Blackburn	6258S	6260S	60C	60DS
Carolina Galv.	S-588	S-5810	CR58	DS58
Chance Galv. Steel	-	8512	8611	-
Joslyn Galv. Steel	J9158 J23282.8	J9160 J23282.10	J9182 J23282A	J9186 J9186
Knight	S858	S1058	SC58	DS58
Kortick	K5441	K5443	K5482	K5492
McGraw-Edison Galv. Steel	DN17S8	DN16S10	DN1K2	-
Power Line Hardware	PLH-588CS	PLH-5810CS	CBC-58	DS-58
Weaver	W-588T	W-5810T	158C	358D

aj  
July 1979

aj - Clamp, ground rod

<u>Manufacturer</u>	<u>For 5/8"</u> <u>Copper-</u> <u>covered Rod</u>	<u>For 3/4" Galv.</u> <u>or Stainless</u> <u>Steel Rod</u>	<u>For 5/8" Galv.</u> <u>or Stainless</u> <u>Steel Rod</u>
Anderson	GC-5	-	-
Blackburn	G5	-	-
Boggs	G31	-	-
Burndy	GKP635	-	-
C & R Products	CRGC-58	-	-
Copperweld	ABH58	-	-
Dossert	GNL62H	-	-
*Erico (Cadweld)			
1 ground wire	GR1-161G	GR1-181G	GR1-161G
2 ground wires	GR1-161G	GR1-181G	GR1-161G
Greaves/Mercury	G-580	-	-
IlSCO	GRC-58	-	-
Joslyn	J8392AB	R3459	R3459
Krueger & Hudepohl	808	-	-
Kortick	K4647	-	-
O-Z Elec. Mfg.	BG0304	-	-
Penn-Union	CEB-2	-	-
Power Line Hardware	RC-58C	-	-
Reliable	E58	3459	3459
UTM	910-023-03	910-007-02	910-007-02
Weaver	WB5/8	-	-

\*Includes disposable molds.

an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Condition of Acceptance: To obtain experience.

Primary Voltage-kV	kVA					MVA								
	750	1000	1500	2000	2500	3750	5	7.5	10	12	15	20	25	30
Central Moloney														
34.4														

S

Federal Pacific

34.4  
67.0  
115  
138

S	S	S												
X	S	S	X	X	X	X	X	X	X	X	X	X	X	X

Transformers 5 MVA and larger also accepted as load tap changing transformers using Federal Pacific Type TC-546 load tap changers.

General Electric

34.4  
43.8  
67.0  
115  
138


Transformers 5 MVA and larger also accepted as load tap changing transformers using General Electric Types LR72, LR65 and LRT-200 load tap changers.

an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Condition of Acceptance: To obtain experience.

Primary Voltage-kV	kVA						MVA							
	750	1000	1500	2000	2500	3750	5	7.5	10	12	15	20	25	30
Hevi-Duty														
34.4	S	S	X	S	S	X	X	X	S	S	X	S	S	S
43.8	S	S	S	S	S	X	X	X	X	X	S	S	S	S
67.0				S	S	X	X	X	X	X	S	X	S	S
115							X	X	X	X	S	S	S	S
138							S	S	X	S	S	S	S	S

Transformers 5 MVA and larger also accepted as load tap changing transformers using Westinghouse  
Types UTS-A and UTT-B and Siemens-Allis Type TLS load tap changers.

McGraw-Edison

34.4	S	S	S	S	S	S	S	S	S	S	S	S	S	S
43.8	S	S	S	S	S	S	S	S	S	S	S	S	S	S
67.0	S	S	S	S	S	S	S	S	S	S	S	S	S	S

Transformers 5 MVA and larger also accepted as load tap changing transformers using McGraw-Edison  
Types 550, 550B and 550C load tap changers.

H. K. Porter  
(Delta-Star)

34.4	S	S	S	S	S	X	X	X	S	S	S	S	S	S
43.8			S	S	S	X	X	X	S	X	X	X	X	X
67.0		S	X	S	X	X	X	X	X	X	X	X	X	X
115						X	X	X	S	X	X	X	X	X

Transformers 5 MVA and larger also accepted as load tap changing transformers using Siemens-Allis  
Types TLS and TLH-21 load tap changers.

av - Conductor, copper

Applicable Specifications: ASTM Specification B 1-70 (or latest revision) for hard-drawn solid  
ASTM Specification B 3-63 (or latest revision) for soft or annealed solid  
ASTM Specification B 8-72 (or latest revision) for hard-drawn stranded and soft stranded

Preferred Sizes:	Hard-drawn solid	4 and 6
	Soft or annealed solid	4 and 6
	Hard-drawn stranded	2x3, 1/0 x 7, 2/0 x 7
	Soft stranded	4 and 6

The following manufacturers have shown compliance with the applicable specifications:

Alcan Cable

American Electrical

Anaconda

Essex (Paranite)

General Cable

Hatfield (Sizes 4 & 6)

Phelps Dodge

Rome Cable

Southwire

av-3  
July 1979

av - Conductor, Copperweld-copper

Applicable Specification: ASTM Specification B 229-71  
(or latest revision)

Preferred Sizes:	<u>Distribution</u>	<u>Transmission</u>
	8A	1/0 F
	6A	2/0 F
	4A	3/0 F
	2A	4/0 F

The following manufacturers have shown compliance with the applicable specification for the sizes indicated:

Anaconda	(2A and smaller)
Copperweld Steel	(All sizes)
Phelps Dodge	(All sizes)
Southwire	(2A and smaller)



av - Conductor, Service  
(Single Conductor)

<u>Manufacturer</u>	<u>Aluminum</u>	<u>Copper</u>
Alcan Cable	x	x
Alcoa	x	
American Electrical	x	x
Anaconda	x	x
Essex (Paranite)	x	x
Kaiser	x	
Phelps Dodge	x	
Pirelli Cable	x	x
Reynolds	x	
Rome Cable	x	x
Southwire	x	x

Applicable Specification: IPCEA-NEMA Standard S-66-524

Insulation: Cross-linked thermosetting polyethylene or equal,  
meeting requirements of Sections 7.3.3 and 7.3.5

Conductor: Physically and electrically equal to MHD copper or  
HD (EC-H19) aluminum, meeting requirements of Section 7.3.2  
(Compact or compressed stranded conductor is acceptable.)

Marking: Manufacturer's name and type of insulation shall be clearly  
shown in durable markings on the surface of the insulation  
at intervals no greater than 24 inches.

av-5  
October 1979

av - Conductor, service cable  
(Triplex and Quadruplex)

<u>Manufacturer</u>	<u>Aluminum</u>	<u>Copper</u>
Alcan Cable	x	x
Alcoa	x	
American Electrical	x	x
Anaconda	x	x
Essex (Paranite)	x	x
Hendrix	x	x
Kaiser	x	
Phelps Dodge	x	
Pirelli	x	x
Reynolds	x	
Rome Cable	x	x
Southwire	x	x

Applicable Specifications: REA Specification D-2, Specifications for  
600 Volt Neutral-Supported Secondary Service  
Drop Cables

ax - Cutout and Arrester, Combination

Nominal System Voltage Cutout Max. Voltage Rating	For 7.2/12.5 kV Wye		For 7.6/13.2 kV Wye		For 14.4/24.9 kV Wye	
	7.8 kV	15 kV	15 kV	15 kV	15 kV	15 kV
Application	For 1Ø Transformers & 1Ø Sectionalizing	For 3Ø Banks & 3Ø Sect.	For 1Ø Trans. & 1Ø Sect.	For 3Ø Banks & 3Ø Sect.	For 1Ø Trans. & 1Ø Sect.	For 3Ø Banks & 3Ø Sect.
Cutout Current Rating	50*	100	50*	100	50*	100
Manufacturer Type Mounting	Catalog Numbers					
Westinghouse Crossarm Electric	7.8 NCX/ 9 LVG	15 NCX/10 LVG	15 NCX/10 LVG	15 NCX/10 LVG	24.9 NCX/ 18 LVG	24.9 NCX/ 18 LVG
Corporation Crossarm (L)	7.8 LBU-II/ 9 LVG	15 LBU-II/10 LVG	15 LBU-II/10 LVG	15 LBU-II/10 LVG	24.9 LBU-II/ 18 LVG	24.9 LBU-II/ 18 LVG

\*These cutouts have open links and must not be used where fault currents are high or for sectionalizing.

(L) Indicates loadbreak type is available.

ay  
July 1979

ay - Cutout and gap, combination

<u>Manufacturer</u>	<u>Type of Mounting</u>	<u>7.2/12.5 kV 50 amp*</u>	<u>14.4/24.9 kV 50 amp*</u>
RTE	Transformer	32-2674A03	32-2674A06

\*These combinations contain the open-link type of cutout.

bk  
July 1979

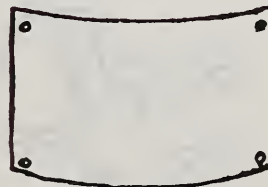
bk - Guy plate

Applicable Specifications:

Strain Type: Edison Electric Institute Specification TD-11  
1951, "Specifications for Guy Hooks and Guy  
Strain Plates"

Lift Type : None

	<u>Strain Type</u> <u>4" x 8" x 14 gauge</u>	<u>Lift Type</u> <u>2<math>\frac{1}{2}</math>" x 7" x <math>\frac{1}{4}</math>", 2 hole</u>
Chance	6575	7898
Dixie	D6575	D7888
Joslyn	J1034	J7894
Kortick	K4015	K3511
McGraw-Edison	DG1M2	DG4M2
Power Line Hardware	GSP-1	
Utilities Service	5351	C434

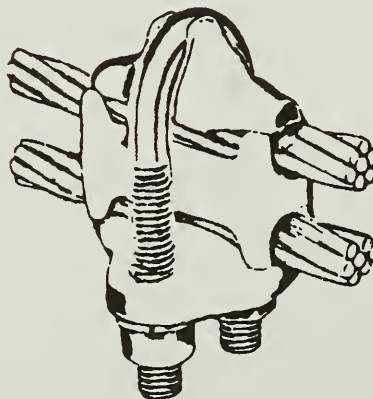


bn  
October 1979

bn - Clamp, loop deadend

For ACSR

	<u>3/0</u>	<u>2/0</u>	<u>1/0</u>	<u>2</u>	<u>4</u>
ALCOA	-	413	413	412	411
Anderson/Sq. D,	LC-74B	LC-71B	LC-70B1	LC-70B	LC-70B
Bethea/National	ALD-7373-U	ALD-34-U	ALD-1313-U	ALD-1313-U	ALD-1313-U
Blackburn	DLC23	DLC60	DLC61	DLC62	DLC62
Burndy	-	-	UW25R	UW2R	UW2R
C & R	-	-	CRLD-10	CRLD-10	CRLD-10
Fargo	GA-145	GA-145	GA-144	GA-144	GA-144
Joslyn	-	-	J1414	J1411	J1411
Penn Union	ADCL-040	ADC-11	ADC-10	ADCL-013	ADCL-C1
Weaver	-	-	WDE-10	WDE-2	WDE-2





bo  
October 1979

bo - Shackle, anchor

Anderson Elec./Square D	AS-25
Bethea/National	ASH-45
Chance	5801
Dixie	D5801
Gould Inc. (ITE)	3022
Joslyn	J2742
Knox	3022
Kortick	K4481
Lapp	33852
McGraw-Edison	DC7J1
Ohio Brass	13722
Utilities Service	4106

br  
July 1979

br - End Link

<u>Manufacturer</u>	<u>Catalog Number</u>
Gould Inc. (ITE)	3082-HT
Joslyn (Brewer-Titchener)	BT-3082-HT
Knox	3082-HT
Lapp	6415-HT
Ohio Brass	79272

by  
October 1979

by - Deadend, Automatic and Formed Type

<u>Fargo</u>	<u>Reliable</u>	Conductor Size	
		<u>Cu</u>	<u>CWC</u>
GD-515	4A SDS	-	4A
GD-513	6A SDS	-	6A
GD-512	8A SDS	-	8A
GD-515	27LD	2 x 3	-
GD-512	41LD	4	-
GD-511	61LD	6	-

ACSR

*Fargo	GD-400 Series
*Reliable	7650 Series
*Preformed	PS-4570 Series Use with thimble clevis PSTC-5247

Aluminum Alloy  
(6201 and 5005)

Fargo	GD-A Series
Reliable	AL Series

\*For use on distribution only.

Conditional List  
by  
July 1979

by - Deadends, automatic and formed type

FORMED TYPE

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Preformed Line Products</u>		
AWAC 4 - 4/3	993	To obtain experience.
DG-4560	6/8/72	
AWAC 2 - 4/3		
DG-4562		
AWAC 1/0 - 4/3		
DG-4565		

AUTOMATIC TYPE

<u>Reliable</u>		
AWAC 4-4/3	1026	To obtain experience.
5201	9/27/73	
AWAC 2-4/3	1035	
5202	2/21/74	
AWAC 1/0-4/3		
5204		

<u>Fargo</u>		
AWAC 4-4/3	1087	To obtain experience.
GDA-235	4/1/76	
AWAC 2-4/3		
GDA-240		
AWAC 1/0-4/3		
GDA-245		

# cg - Switch, air, three-pole, group-operated

(Not suitable for substation use)

Center Break  
Type kV

Side Break  
Type kV

Acceptable  
Mounting

Vertical Break  
Type kV

Manufacturer

A202-A208 15-110  
A202 15-23  
W202 15-23  
MD202 15-23

SV-202 23

Horizontal  
Phase-over-phase  
" "  
" "

KPF

A, B, VI 15-23  
A, VI 15-23

Horizontal  
Phase-over-phase

Powerdyne  
(Kearney)

(L) Means gas or solid material full-load interrupters are accepted and available.

(VI) Means vacuum full-load interrupters are accepted and available.

NOTE: Switches of 15 kV and 25 kV classes with individual phases mounted on wood crossarms or poles must be supplied with insulated interphase and control rods.

cg-4  
July 1979

cg - Switch, air, three-pole, group-operated  
(Factory Preassembled)

<u>Manufacturer</u>	Acceptable Mounting on <u>Structures</u>	Vertical Break		Side Break	
		<u>Type</u>	<u>kV</u>	<u>Type</u>	<u>kV</u>
Chance	Horizontal (A)			D4, D5(L)	15-27
	Phase over phase (A)			D4, D5(L)	15-27
S & C	Horizontal (A)			Alduti(L)	15-25
	Vertical (A)			Alduti(L)	15-25
	Phase over phase (B)	Alduti(L)	34.5 (200 kV BIL)#		
	Vertical (B)	Alduti(L)	34.5 (200 kV BIL)#		

(L) Means gas or solid material full-load interrupters are accepted and available.

# Accepted for transmission use only, provided the steel crossarm base is grounded with an adequate grounding connector.

(A) Not suitable for substation use.

(B) NEMA standard switches for station and line structures.

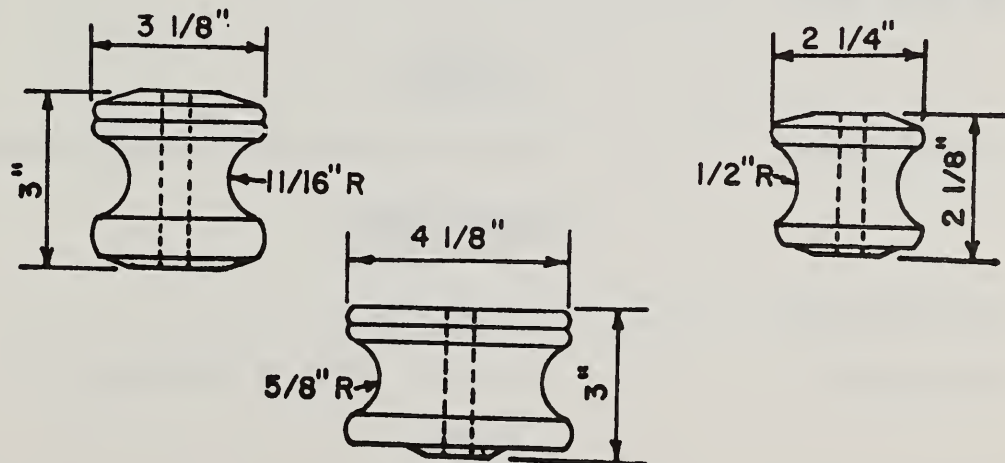
NOTE: Switches with factory-assembled crossarm type bases must have nonconducting crossarm type bases, nonconducting braces, and insulated interphase and control rods, except as otherwise noted.



cm  
July 1979

cm - Insulator, Spool

Type:	<u>Secondary (Wet Process)</u>		<u>Service</u>	
			<u>Wet Process</u>	<u>Dry Process</u>
Groove Diameter:	<u>1-3/4"</u>	<u>3"</u>	<u>1-3/8"</u>	<u>1-3/8"</u>
Chance	C909-1032	C909-1034	C909-1031	0606
Hughes	2102	-	-	-
Gould Inc. (ITE)	2012	2026	2011	-
Joslyn	J151	J0101	J150	J100
Kortick	K516	K522	K513	K514
McGraw-Edison	DE4S3	DE5S1	DE2S2	DE2S1
Porcelain Prod. (Knox)	310	306	303W	300D
Universal	1082	-	-	-
Utilities Service	205	31221	208	207



cp  
October 1979

cp - Deadend, compression type

ACSR

<u>Conductor Size</u>	<u>Alcoa</u>	<u>Anderson/Sq. D</u>	<u>Burndy</u>	<u>Fargo(Alcan)</u>
1/0	Order by	VCD-50R	Type Y-W	
2/0	Conductor	thru	"	
3/0	Size and	VCD-61R	"	
4/0	Stranding	"	"	
266.8 kcmil 26/7	2-piece		"	SEDA-1109
336.4 kcmil 26/7	alloy		"	SEDA-1309
477 kcmil 26/7	compression		"	SEDA-1809
556.5 kcmil 26/7	"		"	SEDA-2209
795 kcmil 26/7	"	VCD-835-4RM		SEDA-3309
954 kcmil 54/7	"	VCD-835-4RM		SEDA-4121

<u>Conductor Size</u>	<u>Kearney</u>	<u>Somerset/Homac</u>
1/0	104000	Order by
2/0	thru	Conductor
3/0	104000-03	Size and
4/0	"	Stranding
266.8 kcmil 26/7	104000-05	"
336.4 kcmil 26/7	thru	"
477 kcmil 26/7	104000-14	"
556.5 kcmil 26/7	"	"
795 kcmil 26/7		
954 kcmil 54/7		

ACSR  
Adjustable

Somerset/Homac

Order by conductor size and stranding.

Aluminum Alloy  
(6201 and 5005)

Conductor Size:

4 thru 4/0

Anderson/Sq. D

Type VCD, Order by conductor size.

Copper

Conductor Size:

2 x 3                      4                      6

National Tel. Supply

71-258/3X              71-204-P              71-162-J

Copperweld-Copper

Conductor Size:

6A                      8A

National Tel. Supply

71-6A-P                      71-8A-P

ct  
July 1979

ct - Plate, Double Arming

Transmission

<u>Manufacturer</u>	<u>4" x <math>\frac{1}{2}</math>" x 24"</u>	<u>4" x <math>\frac{1}{4}</math>" x 17"</u>
Chance	5844	5819
Dixie	D5844	D5845
Joslyn	J1600	J1607
Kortick	K1454	K1465
McGraw-Edison	DP21A1	DP23A3
Power Line Hardware	-	DAP-17
Utilities Service	4117	-

cu  
October 1979

cu - Brace, crossarm, wood

Span, inches	60	60
Drop, inches	<u>18</u>	<u>30</u>
Aluma-Form	6018	6030
American Crossarm & Conduit Company	220	225
Brooks Lumber Company	34680	34681
Hatheway Patterson	16018	-
Hughes	2000CC	2001-D
Joslyn	J23339	J23623
Dis-Tran	DT-60	DT-601

Braces listed below have 26-inch hole spacing. They are interchangeable with the flat steel braces listed on page h.

Aluma-Form	AF626
American Crossarm & Conduit	600
Brooks Lumber Company	58128
Dis-Tran	DT-28
Hatheway Patterson	7026
Hughes	2023
Joslyn	J5526

Brace, crossarm, fiber reinforced plastic

Joslyn	RP-26
Plastigage	CAB-28
Shakespeare	533

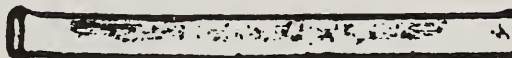
cx  
July 1979

cx - Splice, oval tube

<u>Conductor Size:</u>	<u>4</u>	<u>2</u>	<u>ACSR</u>	<u>1/0</u>	<u>2/0</u>
ALCOA	544	542		540	529

<u>Conductor Size:</u>	<u>0 x 7</u>	<u>2 x 3</u>	<u>Copper</u>	<u>4</u>	<u>6</u>
MEMCO	63	62		58	56
National Tel. Supply	464	463		459	457

<u>Conductor Size:</u>	<u>Copperweld-Copper</u>	<u>6A</u>	<u>8A</u>
MEMCO		170	168
National Tel. Supply		460	459



cy-1  
October 1979

cy - Splice, compression  
ACSR

Conductor Size	Alcoa	Anderson/ Sq. D	Burndy	Fargo (Alcan)	ITT Blackburn
4 6/1	2-piece	VC-36R	"Unisplice"		Type RC
4 7/1	Order	VC-36R	(1-piece)		1-piece
2 6/1	by	VC-36R	or Y-S		Order
2 7/1	Conductor	VC-36R	(2-piece)		by
1/0	Size	VC-50R	Order by		Conductor
2/0	and	VC-50R	Conductor		Size
3/0	Stranding	VC-61R	Size and		and
4/0	"	VC-61R	Stranding		Stranding
266.8 kcmil 26/7	2-piece		2-pc.	TJA-1109	Type DT
336.4 kcmil 26/7	Compression		"	TJA-1309	2-piece
477 kcmil 26/7	Alloy Order		"	TJA-1809	for
556.5 kcmil 26/7	by Conductor		"	TJA-2209	kcmil sizes
795 kcmil 26/7	Size and	VC-835-4RM		TJA-3309	
954 kcmil 54/7	Stranding	VC-835-4RM		TJA-4121	

Conductor Size	Kearney	Nat. Tel. Supply	Somerset/ Homac	Penn- Union
4 6/1	OH4-61A	"Nicopress"	"Tension	Type KFAS
4 7/1	OH4-71A	(1-pc. or 2-pc.)	splicer"	(1-piece)
2 6/1	OH2-61A	Order by Conduc-	(1-piece or	Order
2 7/1	OH2-71A	tor Size and	2-piece)	by
1/0	OH1/0-61A	Stranding	Order by	Conductor
2/0	OHR2/0-61A	2-pc.	Conductor	Size
3/0	OHR3/0-61A	"	Size and	and
4/0	HR4/0-61A	"	Stranding	Stranding
266.8 kcmil 26/7	HR-266-267A	"	2-pc.	
336.4 kcmil 26/7	HR-336-267A	"	"	
477 kcmil 26/7	HR-477-267A	"	"	
556.5 kcmil 26/7	HR-556-267A	"	"	

Copper and Copperweld-Copper

Conductor Size	Anderson	Burndy	Kearney	Nat. Tel. Supply	Reliable	Somerset/ Homac	Penn- Union
6 cu	VCC-28	YDS6W	OH6C	1-162/J	6-J-1	J2C3	BFW
4 cu	VCC-28	YDS4W	OH4C	1-204/P	4-P-1	L2C5	BFW
2 x 3 cu	-	YDS2C-3	OH2-3CX	1-258/3X	2/3STR-X1	S2C7	-
0 x 7 cu	-	YDS25	OH1-7C	1-325/7F6	-	U2C9	BF
8A CWC	VCC-28	YDS8KT	OHR8ACW	1-8A-P	8A-P-1	L2E1	-
6A CWC	VCC-28	YDS6KT	OHR6ACW	1-6A-P	6A-P-1	L2E3	-
4A CWC	VCC-37	YDS4KT	OHR4ACW	1-4A-X	4A-X-1	Q2E5	-
2A CWC	VCC-43	-	-	-	-	U2E7	-



Conditional List  
du(1)  
October 1979

du - Connecting Links

Strength Rating: 25,000 lbs. ultimate loading

<u>Manufacturer</u>	<u>Link to guy</u>	<u>Size</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
Hughes	3154	3/8" x 2" x 9-1/2"	1172	To obtain
	Link to		9/20/79	experience
	<u>Insulators</u>			in conjunction
Hughes	3176	3/8" x 3" x 9-1/2"	1172	with pole bands
			9/20/79	(Item fv(1))



ed - Support, overhead ground wire

Applicable Specifications: "REA Specifications for Overhead Ground  
Wire Support Brackets," T-2

Pole top diameter, inches	6-8	8-10	10-12
Chance	-	5432	5433
Dixie	-	-	D7760
Hughes Brothers	-	2859-12	2859-14
Joslyn	J6393	J6394	J6395
Kortick	K3580	K3581	K3582
McGraw-Edison	DN9M1	DN9M2	DN9M3
Utilities Service	C1238	C1239	C1240

ef  
July 1979

ef - Bolt, clevis

Applicable Specifications: "REA Specifications for Clevis Bolts,"  
DT-7

	<u>Dia.</u> <u>Inches</u>	<u>8"</u>	<u>10"</u>	<u>12"</u>	<u>14"</u>
Chance	5/8	15808	15810	15812	15814
	3/4	15828	15830	15832	15834
Joslyn	5/8	J7808	J7810	J7812	J7814
	3/4	J7828	J7830	J7832	J7834



Conditional List  
fv(1)  
October 1979

fv - Guy Attachment  
Pole Bands with Through Bolts  
for Transmission Lines

Strength Ratings: 25,000 lbs. ultimate loading  
(45° guy angle)\*

<u>Manufacturer</u>	<u>Pole Diameter</u>	<u>Pole Band With Through Bolts and Associated Hardware**</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
Hughes	7-10"	3108 C.5	1172	To obtain
	10-12"	3108 C.6	9/20/79	experience.

\*For a 30° guy angle, capacity of pole bands should be derated.

\*\*Appropriate connecting links (Item du(1)) should be ordered with the pole band.





gw - Crossarm Assembly for H-frame Construction  
(Double Arm) 230 kV (Small Angle)

Applicable Specification: REA Specification T-8  
Drawing : TH-231B

Assembly complete with attaching hardware, fittings, bolts and braces.

Crossarm 3-5/8" x 9-3/8"

<u>Manufacturer</u>	<u>Catalog No.</u>
American Crossarm & Conduit (1)	8026VB
Brooks (1)	64231
Cascadian (1)	CCC231B82
Hughes (1,2)	C-3338-B
Joslyn (1)	REA 64-17
Koppers (1)	REA-230B

Crossarm 5-1/8" x 7-1/2"

Hughes (1,2)	C-3338-BL
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- 1 - Fixed spacer fitting sizes as required.
- 2 - Adjustable spacers are available.

Conditional List  
gx(1)  
October 1979

gx - Single Pole Steel Structures with Arms

Applicable Specification: REA Specification for Single Pole Steel  
Structures Complete with Arms, T-9

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Union Metal</u> Single circuit, delta conductor arrangement - Type D Single circuit, vertical conductor arrangement - Type E Double circuit conductor arrangement - Type H Single circuit, large angle arrangement - Type K	994 6/29/72	1. To obtain experience. 2. For use only in scenic and urban areas where right-of-way is limited.
<u>Meyer</u> Single circuit, delta conductor arrangement - Type 1 Single circuit, vertical conductor arrangement - Type 2 Double circuit conductor arrangement - Type 3 Single circuit, large angle arrangement - Type 4	994 6/29/72	1. To obtain experience. 2. For use only in scenic and urban areas where right-of-way is limited.
<u>Bruce Lake</u> Single circuit, delta conductor arrangement - Type SCSUSP1 Single circuit vertical conductor arrangement - Type SCSUSP2 Double circuit conductor arrangement - Type DCSUSP3 Single circuit, large angle arrangement - Type SCH4	1078 11/26/75	1. To obtain experience. 2. For use only in scenic and urban areas where right-of-way is limited.

gy - Crossarm Assembly for H-frame Construction  
(Double Arm)

Applicable Specification: REA Specification T-7, Revision dated  
November 29, 1962  
Applicable Drawing : TH-10 Series  
No braces (TH-10)  
Two vee braces on outside (TH-10VO)  
Two vee braces on inside (TH-10VI)  
Four vee braces (TH-10V4)

3-5/8" x 9-3/8" x 32' wood crossarm assembly complete with  
attaching hardware, fittings, bolts and 3-3/8" x 5-3/8"  
braces.

	<u>Catalog Nos. or Drawing Nos.</u>			
	<u>TH-10</u>	<u>TH-10VO</u>	<u>TH-10VI</u>	<u>TH-10V4</u>
	<u>Items</u>	<u>Items</u>	<u>Items</u>	<u>Items</u>
(Assemblies)	gy	gy and vo	gy and vi	gy and vv
American Crossarm & Conduit Company (1)	70208	70228	702281	70248
Brooks Lumber (1)	6410	6410-1	6410-2	6410-3
Cascadian (1)	CCC1071	CCC1071-VO	CCC1071-VI	CCC1071-V4
Hughes Brothers (1,2)	C-3316-A	C-3316-A	C-3316-A	C-3316-A
Joslyn (1)	REA 62-9	REA 62-10	REA 62-11	REA 62-12
Niedermeyer-Martin(1)	N-6710	N-6711	N-6712	N-6713
United (Ky. AEC)(1)	SW16110-0	SW16110-VO	SW16110-VI	SW16110-V4

- 1 - Fixed spacer fitting sizes as required
- 2 - Adjustable spacers are available

gy-2  
October 1979

gy - Crossarm Assembly for H-frame Construction  
(Double Arm) 230 kV (Tangent)

Applicable Specification: REA Specification T-8  
Drawing : TH-230

Assembly complete with attaching hardware, fittings, bolts and braces.

Crossarm 3-5/8" x 9-3/8"

<u>Manufacturer</u>	<u>Catalog No.</u>
American Crossarm & Conduit (1)	8025V4
Brooks (1)	64230
Cascadian (1)	CCC23081
Hughes (1,2)	C-3338-A
Joslyn (1)	REA 64-16
Koppers (1)	REA-230S
Niedermeyer-Martin (1)	N-6720

Crossarm 5-1/8" x 7-1/2"

Hughes (1,2)	C-3338-AL
--------------	-----------

- 1 - Fixed spacer fitting sizes as required.
- 2 - Adjustable spacers are available.

sd  
October 1979

sd - Current Transformers  
Outdoor Types

<u>Manufacturer</u>	<u>.6 kV</u>	<u>15 kV</u>	<u>25 kV</u>	<u>34.5 kV</u>	<u>69 kV</u>
Associated Engineering	GT HA WEO	BB-15 LG-15	BB-25 LG-25	LG-34.5	
Astra	AA TFW AB AD				
Duncan	DCBW DCCW DCAB				
General Electric	JCR-0 JCW-0 JAK-0 JAD-0	JKW-5	JKW-6 JKW-150 KG-150	JKW-200 KG-200	JKW-350 KG-350
Sangamo	B6 Type	SMC-150			
Westinghouse	CSB-10 CTR CLA-10	CTOM-110 CTOM-15	ACT-150 CCO-150	ACT-200	ACT-350

NOTE: The transformer types listed above are accepted in all standard ratios. Insulation class, voltages, ratios and other necessary information should be specified when ordering.

Conditional List  
sd  
July 1979

sd - Current Transformers  
Outdoor Types

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Electromagnetic Ind.</u>		
Type IK-E, 46-69 kV	971 (7/15/71)	To obtain experience.
Type UMCT, 0.6 kV	981	
Type UCT, 0.6 kV	12/16/71	
Type CO3-110, 15 kV	1076	
Type CO3-150, 25 kV	10/30/75	
Type CO3-200, 34.5 kV		
 <u>General Electric</u>		
Type JCK-5, 15 kV	1059 2/20/75	To obtain experience.



zz - Poles

Applicable preservatives: Creosote, pentachlorophenol-petroleum and waterborne salts (ACA and CCA)

(Firms listed on pages zz-1 through zz-7 are also qualified to treat crossarms. Crossarms should be fabricated at one of the plants listed on page g-1 or g-2.)

Pressure Treatment

	<u>Insured Warranted</u>	<u>Independently Inspected</u>
Alabama Wood Treating Corp.	-	Mobile, Ala.
American Creosote Works, Inc.	-	Jackson, Tenn. Louisville, Miss. Pensacola, Fla.
American Crossarm & Conduit Co.	-	Chehalis, Wash.
Arkwood	-	Omaha, Arkansas
Atlantic Creosoting Co.	-	Portsmouth, Va. Savannah, Ga. Vidalia, Ga.
Baldwin Pole & Piling Co.	-	Bay Minette, Ala.
J. H. Baxter & Co.	Eugene, Ore.	Eugene, Ore. Long Beach, Calif. The Dalles, Ore. Quendall, Wash. Weed, Calif. Laramie, Wyo.
Benton Creosoting Co. (Kennedy Saw Mills)	-	Benton, La.
Broderick Wood Products Co.	-	Denver, Colo.
Brown Wood Preserving Co.	-	Brownville, Ala. Louisville, Ky.
Burke-Parsons-Bowlby Corp.	-	Leland, N. C.
Cascade Pole Co.	- -	Tacoma, Wash. Olympia, Wash.

zz-2  
October 1979

zz - Poles

Pressure Treatment

	<u>Insured Warranted</u>	<u>Independently Inspected</u>
Cowboy Timber Treating, Inc.	-	Manderson, Wyo.
Colfax Creosoting Co.	-	Pineville, La.
Conroe Creosoting Co.	-	Conroe, Texas
Crown Zellerbach Corp.	-	Gulfport, Miss. Mobile, Ala. Urania, La. Sallisaw, Okla.
Dant & Russell, Inc.	-	North Plains, Ore.
Davis Timber Company, Inc.	-	Hattiesburg, Miss.
Dierks Div., Weyerhaeuser Co.	-	DeQueen, Ark.
El Dorado Pole & Piling Co., Inc.	-	El Dorado, Ark.
Eppinger and Russell	-	Chesapeake, Va.
Escambia Treating Co.	-	Brunswick, Ga. Pensacola, Fla. Camilla, Ga.
Fernwood Industries	-	Fernwood, Miss.
Fordyce Wood Preservers, Inc.	-	Fordyce, Ark.
Garland Creosoting Company	-	Longview, Texas
Hart Creosoting Company	-	Jasper, Texas
Edward Hines Lumber Company	-	Mena, Arkansas
Hoosier Treating Company	-	Gosport, Ind.
Huxford Pole & Timber Co., Inc.	-	Huxford, Ala.

zz - Poles

Pressure Treatment

	<u>Insured Warranted</u>	<u>Independently Inspected</u>
Oliver Treated Products Co., Inc.	-	Hammond, La.
Pacific Wood Preserving	-	Cloverdale, Cal.
Panama Timber Co.	-	Panama, Okla.
Penta Wood Products, Inc.	-	Siren, Wisc.
Pressure Treated Timber Co.	-	Boise, Idaho
Selma Pressure Treating Co.	-	Selma, Cal.
Southern Wood Piedmont Co.	-	Augusta, Ga. Baldwin, Fla. East Point, Ga. Gulf, N. C. Macon, Ga. Spartanburg, S. C. Wilmington, N. C.
Southwest Forest Industries	Prescott, Ariz.	Prescott, Ariz.
Stallworth Timber Co., Inc.	-	Beatrice, Ala. Winnfield, La.
Standard Wood Preservers of Shreveport, Inc.	-	Shreveport, La.
John C. Taylor Lumber Sales, Inc.	-	Sheridan, Ore.
Texas Electric Cooperatives, Inc.	-	Jasper, Texas

zz-6  
July 1979

zz - Poles

Pressure Treatment

	<u>Insured Warranted</u>	<u>Independently Inspected</u>
Texas Tie & Timber Co. (W. J. Smith Wood Preserving Co.)	-	Denison, Texas
Union Timber Corp.	-	Homerville, Ga.
Weekly Lumber Co.	- -	Rockledge, Fla. Tampa, Fla.
Western Tar Products Corp.	-	Terre Haute, Ind.
Western Wood Preserving Co.	-	Sumner, Wash.
Wheeler Div., St. Regis Paper Company	Whitewood, S. D. Cass Lake, Minn.	Whitewood, S. D. Cass Lake, Minn.
Whitewood Post & Pole Co.	Whitewood, S. D.	Whitewood, S. D.
Wood Treating, Inc.	-	Picayune, Miss.
Wyckoff Company	- -	W. Seattle, Wash. Bainbridge Island, Wash.

U gk  
July 1979

U gk - Terminations, Indoor

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

Manufacturer

Voltage Class

Catalog No.

Joslyn

15 kV

J9275

## Conditional List

U gk(1.1)

October 1979

U gk - Terminations, Outdoor  
(With mounting hardware)\*(When ordering specify conductor size, type, whether  
copper or aluminum, insulation diameter, and type  
of mounting desired)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Elastimold (ESNA)</u>		
Style 16-THG (15 and 25 kV)	921(6/26/69)	To obtain experience.
Style 35-MT (35 kV)	945(6/11/70)	
	1098(9/23/76)	
<u>General Electric</u>		
Termi-Matic, Type G	938(3/5/70)	To obtain experience.
(15, 25 and 35 kV)	914(3/20/69)	
	1083(2/5/76)	
<u>Joslyn</u>		
"Easy-On II"	1111	To obtain experience.
(15, 25 and 35 kV)	3/31/77	
<u>3M</u>		
5900 Series	966	To obtain experience.
15 kV (4/0 AWG and larger)	5/6/71	
25 kV (#2 AWG thru 750 kcmil)	969	
"Quick-Term" 5800 Series	6/17/71	
bracket mounted,	1054	
15 kV (#2 AWG thru 3/0 AWG)	11/27/74	
MT Series		
15 kV (4/0 AWG and larger)	1083	
25 kV, 35 kV	2/5/76	
"Quick-Term II" Series	1170	
15 kV (#2 AWG thru 4/0 AWG)	8/23/79	
<u>ITT Blackburn</u>		
Type MP (15, 25 and	1043(6/13/74)	To obtain experience.
35 kV)	1166(6/21/79)	

\*Mounting hardware is used to attach termination to mounting bracket  
(U hd or U hj).



U gk - Terminations, Outdoor  
(With Mounting Hardware)\*

(When ordering specify conductor size, type, whether  
copper or aluminum, insulation diameter, and type  
of mounting desired)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Raychem</u> Thermofit HVT (15, 25 and 35 kV)	1054 11/27/74	To obtain experience.
<u>Kearney</u> 111508 Series (15 kV)	1091 5/27/76	To obtain experience.
<u>Bishop</u> SWO Kit (15, 25 & 35 kV)	1109 3/3/77	To obtain experience.
<u>G &amp; W</u> "Slip-on Dry" 15 kV, SD-7 25 kV, SD-8 35 kV, SD-9	1150(11/2/78)  1166 6/21/79	To obtain experience.
<u>RTE</u> Fasterm Series (15 & 25 kV)	1162 4/26/79	To obtain experience.

\*Mounting hardware is used to attach termination to mounting bracket  
(U hd or U hj).

## Conditional List

U gk(2)

July 1979

## U gk - Terminations, Indoor

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Elastimold (ESNA)</u> Style 35-MS (15, 25 & 35 kV)	945(6/11/70) 1116(6/9/77)	To obtain experience.
<u>General Electric</u> Termi-Matic, Type A or G (15, 25 & 35 kV)	914(3/20/69) 1083(2/5/76)	To obtain experience.
<u>ITT Blackburn</u> Type SKD Stress Cone (15, 25 & 35 kV)	1043 6/13/74	To obtain experience.
<u>Raychem</u> Thermofit HVT (15, 25 & 35 kV)	1054 11/27/74	To obtain experience.
<u>3M</u> MT Series (15, 25 & 35 kV)	1054(11/27/74) 1083(2/5/76)	To obtain experience.
<u>Kearney</u> 1115 SC Series (15 & 25 kV)	1091 5/27/76	To obtain experience.
<u>Bishop</u> Stress-Wrap (15, 25 & 35 kV)	1109 3/3/77	To obtain experience.
<u>RTE</u> Fasterm Stress Cone (15 & 25 kV)	1162 4/26/79	To obtain experience.

U gn - Enclosures, equipment

Sectionalizing Enclosures

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Malton Electric</u>		
MEJ Series	1045(7/11/74)	To obtain experience.
ME Series	1108(2/17/77)	
	1130(1/5/78)	
MEH Series	1167(7/12/79)	
<u>Vertex Plastics</u>		
1826B, 1Ø	1045	To obtain experience.
1826C, 1Ø	7/11/74	
1881, 3Ø	1110(3/17/77)	
<u>Gerard</u>		
Mod-Brk		
6-115-000	1047	To obtain experience.
6-125-000	8/8/74	
6-315-010		
6-115 Series***		
6-125 Series***		
<u>Inter-Alloys</u>		
15 kV and 25 kV	1051(10/10/74)	To obtain experience.
Primary terminal pedestals	1133	
PP Series, 1Ø and 3Ø	2/16/78	
*PP-PM Series, 1Ø and 3Ø		
<u>Fargo</u>		
15 kV and 25 kV	1068(6/26/75)	To obtain experience.
UP-400	1074(9/25/75)	
<u>Galva-Closure Products</u>		
Series AG	1132	To obtain experience.
Series BB	2/2/78	
<u>Hoffman</u>		
U-J Series junction enclosures	1135 3/23/78	To obtain experience.
U-JGS Series ground sleeves	1147 9/14/78	
<u>Utility Products Co.</u>		
PPB (15 & 25 kV)	1162(4/26/79)	To obtain experience.
<u>Ranger</u>		
TE-501, TE-503, J-34-TB	1165(6/7/79)	To obtain experience.

\*For pole mounting

\*\*For crossarm mounting

\*\*\*Available with surge arresters

Conditional List

U gn(4)

July 1979

U gn - Enclosures, equipment

Burial Type

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
Sonoco Products Co. 36" Duropipe (fiber) transformer vault. Available with stainless steel clevises, angle or tab ring, protective shields and cast iron or welded steel grates.	836 3/10/66	To obtain experience.

U go  
July 1979

U go - Fault Indicator  
(For Construction Unit UM6-4)

Manufacturer

Type

Burndy

Series 18 and 18F  
(To be used on single-phase  
circuits only)

Dossert

FLO-40

Edison Control Corp.

Series EC-100

Fisher Pierce

Series 1514  
(To be used on single-phase  
circuits only)

McGraw-Edison

Linam

RTE

TPR, LV, MR

U gp  
October 1979

U gp - Connector Blocks and Splices, Secondary

Watertight - For Use In All Locations

<u>Manufacturer</u>	<u>Connection Type</u>	<u>Catalog Number</u>
Alcoa	Lug	Interchange-I ABB Series Use with A-9 insulating boots
Alcon	Set screw	VPB Series
AMP	Compression	600 Volts secondary UG Distribution 4-way and 6-way bus system
Blackburn	Lug	Series UP (with lugs and sleeves)
Burndy	Lug	URD Mole
Electrical Spec. Prod.	Lug	Type UC (8 AWG - 500 kcmil) (with LA lug and sleeve)
	Set screw	Type UB (with sleeve) Splice Type ACL-HSH (6AWG - 500 kcmil)
Fargo	Bolted	GU-115A (Pancake)
	Bolted	GU-215A Series
	Set screw	GU-500 Series
Homac	Lug	FS-95 Series with flood seal sleeve kit (8 AWG - 350 kcmil)
	Lug	FS 125 Series with flood seal sleeve kit (350 - 500 kcmil)
	Set screw	UH-R Series
Kearney	Compression	HCR
	Compression	HAR
Penn Union	Lug	DBA Series with DBTB, DBTBF and DBTH Series lug and sleeve kits
Reliable	Set screw	15903-15908, 15910 with sleeve kit (4 AWG - 350 kcmil) 15911 with sleeve kit (500 - 750 kcmil)
Utilco	Set screw	Safety Sub Splice - USPA-350SS

Non-Watertight - For Use In Above-Grade Pedestals Only

Fargo	Set screw	GUS-200 Series
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U gv  
July 1979

U gv - Stake, power pedestal  
Refer to Construction Drawing UK5

<u>Manufacturer</u>	<u>Length Inches</u>	<u>Catalog No.</u>	
		<u>For power pedestal only</u>	<u>For joint pedestal</u>
Fargo	72-78-84	UP-5300G-S Series	UP-530G-J Series
Nordic	48-60-72	PM Series	
Utility Prod.	72-78-84	DM Series	DM Series

Conditional List  
U hb(1)  
October 1979

U hb - Cable Accessories

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>ITT Blackburn</u>		
15 kV, used with loadbreak connectors		To obtain experience.
Type LB2BA bushing plug		
Type ABOC protective cap	1012 (3/15/73)	
Type JLB2BA bushing plug*		
25 kV, used with non- loadbreak connectors	1042 (5/30/74)	
Type LB2CA bushing plug	1110 (3/17/77)	
Type ABOCC protective cap		
<u>Burndy</u>		
15 kV, used with loadbreak connectors	1019 6/21/73	To obtain experience.
Type LBP82 bushing plug		
Type LBPC82-11 insulating cap		
<u>Elastimold (ESNA)</u>		
15 kV, used with loadbreak connectors		To obtain experience.
Style 1601-CL cable lead	921 (6/26/69)	
Style 1602A3R feedthru insert*	1171	
Style 1601-A3R bushing plug*	9/6/79	
Style 160-DR insulating cap	924 (8/7/69)	
15 kV, used with non-loadbreak connectors	921 6/26/69	
Style 1501-A1 bushing plug	842	
Style 150-DP deadend plug	6/2/66	
Style 150-DR deadend receptacle		
25 kV, used with loadbreak connectors	964 4/8/71	
Style 2701-A1 bushing plug*		
25 kV, used with non-loadbreak connectors	921 6/26/69	
Style K-1501-A1 bushing plug	945 (6/11/70)	
Style K-150-DR deadend receptacle		

\*Note: Asterisk indicates single or three phase. Other bushing plugs for  
use with loadbreak connectors are single phase only.

U hv - Cable, underground  
15 kV cable

Applicable Specification: REA Specification U-1  
Conductor : Copper or Aluminum  
                                  #2 AWG through 1000 kcmil  
Insulation : High Molecular Weight (HMW) or cross-  
                                  linked (XL) polyethylene  
Neutral : Copper concentric neutral

<u>Manufacturer</u>	<u>Insulation</u>	<u>Flat Strap Neutral Available</u>	<u>Stabilized Neutral Design*</u>
Alcan	HMW or XL	Yes	
Alcoa	HMW or XL	Yes	Ridg-lok
Anaconda	HMW	No	
Collyer	XL	No	
Essex (Paranite)	HMW or XL	Yes	
Hatfield	XL	No	
Hendrix	HMW or XL	No	Neu-Lok
Kaiser	HMW or XL	No	
Okonite	HMW or XL	No	
Phelps Dodge	HMW or XL	Yes	
Pirelli	HMW or XL	Yes	
Reynolds	HMW or XL	Yes	Secure-Neutral
Rome Cable	HMW or XL	Yes	Serve-Lock
Southwire	HMW or XL	No	
Triangle	HMW or XL	Yes	

\*Accepted design meeting the requirements of 7.5.2 REA Specification U-1,  
for a minimum neutral with a maximum lay.

U hv-2  
October 1979

U hv - Cable, Underground  
25 kV cable

Applicable Specification: REA Specification U-1  
Conductor : Copper or Aluminum  
No. 2 AWG through 1000 kcmil  
Insulation : High Molecular Weight (HMW) or cross-  
linked (XL) polyethylene  
Neutral : Copper concentric neutral

<u>Manufacturer</u>	<u>Insulation</u>	<u>Flat Strap Neutral Available</u>	<u>Stabilized Neutral Design*</u>
Alcan	HMW or XL	Yes	
Alcoa	HMW or XL	Yes	Ridg-Lok
Anaconda	HMW	No	
Essex (Paranite)	HMW or XL	Yes	
Hendrix	HMW or XL	No	Neu-Lok
Kaiser	HMW or XL	No	
Okonite	HMW or XL	No	
Phelps Dodge	HWM or XL	Yes	
Pirelli	HMW or XL	Yes	
Reynolds	HMW or XL	Yes	Secure-Neutral
Rome Cable	HMW or XL	Yes	Serve-Lock
Southwire	XL	No	
Triangle	XL	Yes	

\*Accepted design meeting the requirements of 7.5.2 REA Specification U-1  
for a minimum neutral with a maximum lay.

U hv - Cable, Underground

600 Volt Cable

Applicable Specification: REA Specification U-2  
Conductor : Copper, #4 AWG and larger  
Aluminum, #2 AWG and larger  
Insulation : Cross-linked polyethylene (XLPE)

<u>Manufacturer</u>	<u>Type Conductor</u>
Alcan	Copper or Aluminum
Alcoa	Aluminum
American Electrical	Aluminum
Anaconda	Copper or Aluminum
Collyer	Copper or Aluminum
Essex (Paranite)	Copper or Aluminum
General Electric	Copper or Aluminum
Hatfield	Copper
Kaiser	Aluminum
Okonite	Copper or Aluminum
Phelps Dodge	Copper or Aluminum
Pirelli	Copper or Aluminum
Reynolds	Copper or Aluminum
Rome Cable	Copper or Aluminum
Southwire	Copper or Aluminum
Triangle	Copper or Aluminum

NOTE: The manufacturers shown above have indicated that their 600 volt cable is suitable for use on 480 volt corner grounded delta circuits.

The above cable may be supplied with UL label for Type USE.



U hv - Cable, Underground

600 Volt Multi-Conductor Cable

Applicable Specification: REA Specification U-2

Conductor : Copper, #4 AWG and larger

Aluminum, #2 AWG and larger

Insulation : Cross-linked polyethylene (XLPE)

<u>Manufacturer</u>	<u>Type Insulation</u>	<u>Type Conductor</u>	<u>Cable Configuration</u>
Alcan	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed
Alcoa	XLPE	Aluminum	3 Insulated Conductors Triplexed
American Electrical	XLPE	Aluminum	3 Insulated Conductors Triplexed
Anaconda	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed
Essex (Paranite)	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed
General Electric	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed
Hatfield	XLPE	Copper	3 Insulated Conductors Triplexed
Kaiser	XLPE	Aluminum	3 Insulated Conductors Triplexed
Okonite	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed
Pirelli	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed
Reynolds	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed
Rome Cable	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed
Southwire	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed
Triangle	XLPE	Copper or Aluminum	3 Insulated Conductors Triplexed

NOTE: The above cable may be supplied with UL label for Type USE.

## Conditional List

U hv(1)

October 1979

U hv - Cable, Underground  
(15 or 25 kV cable)TREE RETARDANT

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Reynolds</u> Reynotree HMW	1114(5/12/77)	To obtain experience.
	1134(3/2/78)	
DFDA-6202 HMW	1151(11/16/78)	
<u>Alcoa</u> DFDA-6202 HMW	1148(9/28/78)	To obtain experience.
<u>Rome Cable</u> Treban 100 HMW	1146(8/31/78)	To obtain experience.
DFDA-6202 HMW	1155(1/18/79)	
<u>Essex</u> Treban 100 HMW	1146(8/31/78)	To obtain experience.
<u>Southwire</u> Treban 100 HMW	1146(8/31/78)	To obtain experience.
DFDA-6202 HMW	1152(12/7/78)	
<u>Triangle</u> Treban 100 HMW	1146(8/31/78)	To obtain experience.
DFDA-6202 HMW	1151(11/16/78)	
<u>Hendrix</u> DFDA-6202 HMW	1151(11/16/78)	To obtain experience.
<u>Pirelli</u> Treban 100 HMW	1152(12/7/78)	To obtain experience.
DFDA-6202 HMW	1152(12/7/78)	
<u>Alcan</u> DFDA-6202 HMW	1167(7/12/79)	To obtain experience.



U hw  
October 1979

U hw - Warning sign

Applicable Specifications: REA Drawings UML2-1 and UML2-2

<u>Manufacturer</u>	<u>Size (inches)</u>	<u>Danger Sign Catalog No.</u>	<u>Caution Sign Catalog No.</u>
Brady*	7 x 10	46133	46043
	10 x 14	46131	46041
Dun-Lap*	7 x 10	DL-D710	DL-C710
	10 x 14	DL-D1014	DL-C1014
	14 x 20	DL-D1420	DL-C1420
	20 x 28	DL-D2028	DL-C2028
Eastern Metal*	7 x 10	REA 12-1-710	REA 12-2-710
	10 x 14	REA 12-1-1014	REA 12-2-1014
	14 x 20	REA 12-1-1420	REA 12-2-1420
	20 x 28	REA 12-1-2028	REA 12-2-2028
Lyle*	7 x 10	UML2-1-710	UML2-2-710
	10 x 14	UML2-1-1014	UML2-2-1014
	14 x 20	UML2-1-1420	UML2-2-1420
	20 x 28	UML2-1-2028	UML2-2-2028

\*Reflective signs also available.

The signs listed on this page are to be secured to equipment and transformer enclosures by means of an adhesive or by welding. Screws and rivets are not to be used.

Conditional List

U jb  
July 1979

U jb - Splice Shield  
(Refer to Drawing UM45-4)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Kellems</u> No. SE 594-2	1035 2/21/74	To obtain experience.

